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EXAMINER

ALHIJA, SAIF A

ART UNIT

PAPER NUMBER

2128

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/683,677	<b>Applicant(s)</b> DEVINS ET AL.	
	<b>Examiner</b> Saif A. Alhija	<b>Art Unit</b> 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                 | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-30 have been presented for examination.

**Response to Arguments**

2. Applicant's arguments filed 12 June 2006 have been fully considered but they are not persuasive.

i) The Examiner would like to note that the previous office action was a non-final rejection and not a final. The office action correspondence did not include a final rejection paragraph. In addition, the Examiner utilized a new grounds of rejection. The Examiner also notes that this office action is Final. See Conclusion.

ii) The Examiner withdraws the 112 2<sup>nd</sup> rejections discussed in the previous office action. However the amendments have raised the issue of the 101 rejections discussed below as well as in section iii of this response.

iii) The Examiner maintains the 35 U.S.C. 101 rejection of Claim 8 and Applicants amendment necessitated the 35 U.S.C. 101 rejections of Claims 1-7. Applicants amendment indicates that the claims constitute only software modules and are therefore rejected under 35 U.S.C. 101. Applicants have stated that the claims are indicated to software only and there are no hardware elements. Applicants are requested to explain how the software modules disclosed in the claims would not be run on hardware. This would appear to raise an issue of enablement, more specifically how the verification of the system with the claimed software would be run without accompanying hardware to run the software.

iv) The Applicants argue that the reference discloses hardware and not software and can therefore not anticipate Applicants invention. First, the reference appears to be a step forward in the art. The hardware models are intended to be a faster method of verification than the software version. Second, the reference also discloses the use of software in the verification system. Specifically, see Column 1, Line 53 – 67 as well as Column 2, Lines 12-37 and 59-67 as well as Column 3, Line 5-14 and Line 49-62 as well as Column 9, Line 17-28.

Art Unit: 2128

v) The Applicants argue that the reference does not disclose I/O driver models, I/O controller, and simulated I/O cores. The reference discloses in Figure 2, 5 and 6 and their corresponding description I/O pin drivers and cores. The reference also discloses system controllers, in for example Column 9, Lines 44-55, which control aspects of the simulation including I/O. With respect to the hardware aspect of the I/O, see section iv above.

vi) The Applicants argue that the reference discloses a hardware bus wrapper and not a virtual bus wrapper. The reference discloses virtual buses as can be seen in Column 11, Line 14 for example. With respect to the hardware aspect of the wrapper, see section iv above.

vii) The Applicants argue the motivation to combine the references stating that the “alleged motivation does originate from prior art but has been supplied by Examiner.” It appears that Applicants are attempting to argue that the motivation **did not** originate from the prior art but has been supplied by the Examiner. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so **found either** in the references themselves or **in the knowledge generally available to one of ordinary skill in the art**. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992) (*Emphasis added*). The Examiner therefore maintains the motivation to combine the references as disclosed below and in the previous rejection.

viii) With respect to the intended use of the cores, the cores are an intended use of the verification system and not of the cores themselves. The motivation provided would allow for “proper verification of all popular input output formats.” As disclosed below, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the cores discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats.

**Claim Rejections - 35 USC § 101**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**MPEP 2106 recites:**

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result" State Street 149 F.3d at 1373, 47 USPQ2d at 1601-02. A process that consists solely of the manipulation of an abstract idea is not concrete or tangibles. See *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed.Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459.

3. **Claims 1-13 are rejected** under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite a system and method that appear to be code. It should be noted that code (i.e., a computer software program) does not do anything per se. Instead, it is the code stored on a computer that, *when executed*, instructs the computer to perform various functions. The following claim is a generic example of a proper computer program product claim;

A computer program product embodied on a computer-readable medium and comprising code that, when executed, causes a computer to perform the following:

Function A  
Function B  
Function C, etc...

All claims dependent upon rejected base claims are rejected by virtue of their dependency.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claim(s) 1-20 and 30 are rejected** under 35 U.S.C. 102(e) as being clearly anticipated by **Evans et al. “Apparatus and Method for Verifying a Multi-Component Electronic Design”, U.S. Patent No. 6,279,146**, hereafter referred to as **Evans**.

**Regarding Claim 1:**

**Evans discloses** A software system for verifying an integrated circuit design said system comprising:

an external memory mapped test device having a switch programmably connectable to one or more I/O driver models and to a simulated I/O controller, said I/O driver models connected to corresponding simulated I/O cores by corresponding virtual buses; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

a virtual memory bus connecting said I/O controller and said switch; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

and wherein said I/O cores and said I/O controller are software descriptions of said integrated circuit design. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 2:**

**Evans discloses** The system of claim 1, wherein said external memory mapped test device and said switch are distributed among a plurality of external memory mapped test device modules, each module containing a portion of said switch and connected to one of said I/O driver models. **(Column 12, Line 18 – Line 43. Figures 2 and 5)**

**Regarding Claim 3:**

**Evans discloses** The system of claim 1, wherein said external memory mapped test device further includes an address register. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 4:**

**Evans discloses** The system of claim 1 wherein said integrated circuit design further includes an embedded processor. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 5:**

**Evans discloses** The system of claim 2, wherein each said external memory mapped test device module further includes an address register. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 6:**

**Evans discloses** The system of claim 2, wherein said integrated circuit design further includes an embedded processor. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 7:**

**Evans discloses** The system of claim 1, wherein said external memory mapped test device and said switch are distributed among a plurality of external memory mapped test device modules, each module containing a portion of said switch and connected to one of said I/O driver models and further including an additional external memory mapped test device module directly connected to one or more additional I/O driver models, each additional I/O driver model directly connected to an additional I/O core, each additional I/O core part of said integrated circuit design. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 8:**

**Evans discloses** A software method for verifying an integrated circuit design the method comprising:

providing an external memory mapped test device software module having a switch programmably connectable to one or more I/O driver models and to a simulated I/O controller, said I/O driver models connected to corresponding simulated I/O cores by corresponding virtual buses; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

providing a virtual memory bus connecting said I/O controller and said switch; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

programming connections of said external memory mapped test device and connections of a general purpose I/O core to said I/O models; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

wherein said I/O cores, said general purpose I/O core, and said I/O controller are software descriptions of said integrated circuit design; and **(Column 12, Line 18 – Line 43. Figures 2 and 5)**



simulating said integrated circuit design by running a test case with said programmed connections. (Column 12, Line 18 – Line 43. Figures 2 and 5)

**Regarding Claim 9:**

**Evans discloses** The method of claim 8, further including: distributing said external memory mapped test device and said switch among a plurality of external memory mapped test device modules, each module containing a portion of said switch and connected to one of said I/O driver models. (Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)

**Regarding Claim 10:**

**Evans discloses** The method of claim 8, further including: providing said external memory mapped test device with an address register and setting said switch and controlling said I/O driver models using address information programmed into said address register. (Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)

**Regarding Claim 11:**

**Evans discloses** The method of claim 8, further including: providing an embedded processor in said integrated circuit design, said embedded processor running said test operating system. (Column 12, Line 18 – Line 43. Figures 2 and 5)

**Regarding Claim 12:**

**Evans discloses** The method of claim 9, further including: providing each external memory mapped test device with an address register and setting each portion of said switch and controlling each I/O driver model using address information programmed into said address register. (Column 10, Line 60

Art Unit: 2128

– Column 11 Line 26. Figures 2 and 5)

**Regarding Claim 13:**

**Evans discloses** The method of claim 9, further including: providing said integrated circuit design with an embedded processor running said test case on said embedded processor. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 14:**

**Evans discloses** A method for verifying an integrated circuit design comprising:  
providing an I/O controller connected to one or more I/O cores, said I/O cores part of said integrated circuit design. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

providing an external memory mapped test device having a switch for selectively connecting one or more of said I/O cores to corresponding I/O driver models; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

providing a bus for transferring signals between said I/O controller and said switch; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

providing a test operating system for controlling said switch; **(Column 12, Line 18 – Line 43. Figures 2 and 5)**

simulating said integrated circuit design by running a test case on said test operating system; **(Column 12, Line 18 – Line 43. Figures 2 and 5)**

distributing said external memory mapped test device and said switch among a plurality of external memory mapped test device modules, each module containing a portion of said switch and connected to one of said I/O driver models; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

and providing an additional external memory mapped test device module directly connected to one or more additional I/O driver models, each additional I/O driver model directly connected to an additional I/O core, each additional I/O core part of said integrated circuit design. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 15:**

**Evans discloses** A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for verifying an integrated circuit design, said method steps comprising:

providing an external memory mapped test device software module having a switch programmably connectable to one or more I/O driver models and to a simulated I/O controller, said I/O driver models connected to corresponding simulated I/O cores by corresponding virtual buses; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

providing a virtual memory bus connecting said I/O controller and said switch; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

programming connections of said external memory mapped test device and connections of a general purpose I/O core to said I/O models; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

wherein said I/O cores, said general purpose I/O core, and said I/O controller are software descriptions of said integrated circuit design; **(Column 12, Line 18 – Line 43. Figures 2 and 5)**

and simulating said integrated circuit design by running a test case with said programmed connections. **(Column 12, Line 18 – Line 43. Figures 2 and 5)**

**Regarding Claim 16:**

Art Unit: 2128

**Evans discloses** The program storage device of claim 15, said method steps further including: distributing said external memory mapped test device and said switch among a plurality of external memory mapped test device modules, each module containing a portion of said switch and connected to one of said I/O driver models. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 17:**

**Evans discloses** The program storage device of claim 15, said method steps further including: providing said external memory mapped test device with an address register and setting said switch and controlling said I/O driver models using address information programmed into said address register. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 18:**

**Evans discloses** The program storage device of claim 15, said method steps further including: providing an embedded processor in said integrated circuit design said embedded processor running said test operating system. **(Column 12, Line 18 – Line 43. Figures 2 and 5)**

**Regarding Claim 19:**

**Evans discloses** The program storage device of claim 16, said method steps further including: providing each external memory mapped test device with an address register and setting each portion of said switch and controlling each I/O driver model using address information programmed into said address register. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 20:**

Art Unit: 2128

**Evans discloses** The program storage device of claim 16, said method steps further including: providing said integrated circuit design further with an embedded processor running said test case on said embedded processor. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Regarding Claim 30:**

**Evans discloses** The method of claim 8, further including:

distributing said external memory mapped test device and said switch among a plurality of external memory mapped test device modules, each module containing a portion of said switch and connected to one of said I/O driver models; **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

connecting an additional external memory mapped test device module directly to one or more additional I/O driver models, each additional I/O driver model directly connected to an additional I/O core, each additional I/O core part of said integrated circuit design. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2128

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claim(s) 21-29** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Evans** in view of **Dutta et al. "Viper"**, hereafter referred to as **Dutta**.

**Regarding Claim 21:**

**Evans discloses** The system of claim 1, wherein said one or more I/O cores are independently selected from the group consisting of universal asynchronous receiver transmitter cores, serial cores, and general purpose I/O cores. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Evans does not explicitly disclose** The system of claim 1, wherein said one or more I/O cores are independently selected from the group consisting of 1394 I/O cores.

**Dutta discloses** The system of claim 1, wherein said one or more I/O cores are independently selected from the group consisting of 1394 I/O cores. **(Page 21, Paragraph 3)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the 1394 I/O core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 22:**

**Evans discloses** The system of claim 1, wherein said integrated circuit design further includes an embedded processor core, a memory controller core. (Column 10, Line 60 – Column 11 Line 26.

**Figures 2 and 5)**

**Evans does not explicitly disclose** The system of claim 1, wherein said integrated circuit design further includes a direct memory access core.

**Dutta discloses** The system of claim 1, wherein said integrated circuit design further includes a direct memory access core. (Page 21, Paragraph 3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the DMA core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 23:**

**Evans does not explicitly disclose** The system of claim 22, further including a direct memory access core model of said a direct memory access core.

**Dutta discloses** The system of claim 22, further including a direct memory access core model of said a direct memory access core. (Page 21, Paragraph 3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the DMA core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 24:**

Art Unit: 2128

**Evans discloses** The method of claim 8, wherein said one or more I/O cores are independently selected from the group consisting of universal asynchronous receiver transmitter cores, serial cores, and general purpose I/O cores. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Evans does not explicitly disclose** The method of claim 8, wherein said one or more I/O cores are independently selected from the group consisting of 1394 I/O cores.

**Dutta discloses** The method of claim 8, wherein said one or more I/O cores are independently selected from the group consisting of 1394 I/O cores. **(Page 21, Paragraph 3)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the 1394 I/O core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 25:**

**Evans discloses** The method of claim 8, wherein said integrated circuit design includes an embedded processor core, a memory controller core. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Evans does not explicitly disclose** The method of claim 8, wherein said integrated circuit design includes a direct memory access core.

**Dutta discloses** The method of claim 8, wherein said integrated circuit design includes a direct memory access core. **(Page 21, Paragraph 3)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the DMA core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 26:**



Art Unit: 2128

**Evans does not explicitly disclose** The method of claim 24, wherein said integrated circuit design includes a direct memory access core model of said a direct memory access core.

**Dutta discloses** The method of claim 26, wherein said integrated circuit design includes a direct memory access core model of said a direct memory access core. **(Page 21, Paragraph 3)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the DMA core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 27:**

**Evans discloses** The program storage device of claim 15, wherein said one or more I/O cores are independently selected from the group consisting of universal asynchronous receiver transmitter cores, serial cores, and general purpose I/O cores. **(Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5)**

**Evans does not explicitly disclose** The method of claim 8, wherein said one or more I/O cores are independently selected from the group consisting of 1394 I/O cores.

**Dutta discloses** The method of claim 8, wherein said one or more I/O cores are independently selected from the group consisting of 1394 I/O cores. **(Page 21, Paragraph 3)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the 1394 I/O core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 28:**

Art Unit: 2128

**Evans discloses** The program storage device of claim 15, wherein said integrated circuit design includes an embedded processor core, a memory controller core. (**Column 10, Line 60 – Column 11 Line 26. Figures 2 and 5**)

**Evans does not explicitly disclose** The program storage device of claim 15, wherein said integrated circuit design includes a direct memory access core.

**Dutta discloses** The program storage device of claim 15, wherein said integrated circuit design includes a direct memory access core. (**Page 21, Paragraph 3**)

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the DMA core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Regarding Claim 29:**

**Evans does not explicitly disclose** The program storage device of claim 27, wherein said integrated circuit design includes a direct memory access core model of said a direct memory access core.

**Dutta discloses** The program storage device of claim 27, wherein said integrated circuit design includes a direct memory access core model of said a direct memory access core. (**Page 21, Paragraph 3**)

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the DMA core discussed in **Dutta** for the system of **Evans** in order to allow for proper verification of all popular input output formats. In any case, the types of cores refer to intended use.

**Conclusion**

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2128

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. All Claims are rejected.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saif A. Alhija whose telephone number is (571) 272-8635. The examiner can normally be reached on M-F, 11:00-7:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571) 272-2279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAA

September 15, 2006

  
HUGH JONES Ph.D.  
PRIMARY PATENT EXAMINER  
TECHNOLOGY CENTER 2100